

REMARKS

Reconsideration of the application is requested.

Claims 1-24 are in the application. Claims 1-6 and 10 are subject to examination and claims 7-9 and 11-24 have been withdrawn from examination. Claims 1, 3, 5, 6 and 10 have been amended.

In item 1 on page 2 of the above-identified final Office Action, claims 1-6 and 10 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

More specifically, the Examiner states that it is unclear which signal is the "switching signal" used to vary one of the reference voltage and the external comparison voltage until the comparator output changes its logic value at each switched stage of the commutator. The Examiner further states that the meaning of "buffering, via the control unit, the voltage values respectively varied in the preceding step" is unclear and asks where the buffering step is indicated in the flowchart.

The rejections have been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. Support for these

clarifications and changes are based on the specification text and the flowcharts of FIG. 2 and FIG. 4 of the instant application as detailed below.

With regard to identifying which signal is the switching signal, the claims have been amended to clarify that the "switching signal" is applied to a clock input of the commutator by the control unit 6. The amendments clarify that the commutator has two voltage inputs, two voltage outputs, and is configured to be switchable between a first and a second commutating state via the clock signal or switching signal received from the control unit. In the first commutating state of the commutator, the reference voltage and the external comparison voltage are applied simultaneously via the respective two outputs of the commutator to a first and a second input of a comparator that has an output. In this first commutating state of the commutator, either the reference voltage or the external comparison voltage is altered by the control unit in one direction toward a desired value of either the reference voltage or the comparison voltage until the control unit detects a change in the logic value of the comparator output. Once the control unit detects the change in logic value at the comparator output, the value of the voltage in the

preceding variation step is buffered and the commutator is switched to the second commutating state.

In the second commutating state, the reference voltage and the external comparison voltage are applied simultaneously via the outputs of the commutator to the second and first inputs of the comparator. As in the first commutating state, the comparator again compares the reference voltage with the external comparison voltage. Once again, the control unit varies the reference voltage or external comparison voltage in a direction towards the desired value and upon detecting a change in logic value at the comparator output, buffers the value of the voltage. Then the control unit is able to generate a reference voltage that is based on the previously buffered average voltage values. Therefore, the reference voltage is determined as a function of the buffered average value previously formed in the mean value generation step.

The Examiner also requests further disclosure concerning which "signal is used to vary one of the reference voltage and the external comparison voltage until the comparator changes its logic." Applicants respectfully submit that such disclosure is unnecessary as it is related to a functional feature of the control unit and is not within the scope of the claims. Examiner is respectfully reminded that the

applicant need only provide sufficient disclosure to enable one of skill in the art to practice the invention and applicant respectfully believes the disclosure is more than adequate.

With regard to the "buffering" inquiry, the intermediate storage or buffering of the voltage values is illustrated in steps S6 and S10 in FIG. 2 and steps S26 and S30 in FIG. 4 and discussed in the corresponding sections of the specification. Even the rhombus shape of the flowchart objects for S6, S10, S26, S30 indicates that intermediate storage occurs.

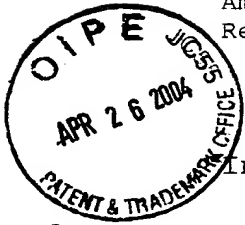
In item 2 on page 2 of the above-identified final Office Action, claims 1-6 and 10 have been rejected as being indefinite under 35 U.S.C. § 112, first paragraph.

More specifically, the Examiner states that it is unclear how the method steps recited in the instant claims 1-6 and 10 correspond to the method steps of flow chart in FIG. 2. Applicants respectfully traverse the Examiner's rejection. FIG. 2 is a flowchart of a sequential program in the control unit and as such the flowchart provides support for the method steps in the claims as amended.

For example, in FIG. 2 the supplying step corresponds with step S2, the switching step to the first commutating state corresponds with step S3, the comparing step corresponds with step S4, the varying step corresponds with steps S5 and S9, the buffering step corresponds with steps S6 and S10, the switching step to the second commutating state corresponds with step S7, the comparing step corresponds with step S8, the repeating step corresponds with steps S9 and S10, and the forming step in claim 1 corresponds with step S11 in FIG. 2. Support for the changes may be found on page 15-17 of the specification of the instant application. No new matter is believed to have been added.

Additionally, the flowchart illustrated in FIG. 4 shows, based on the block circuit diagram shown in FIG. 1A, an alternative procedure for measuring V_{int} if the external comparison voltage V_{ext} is varied.

It is accordingly believed that the specification and the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. The above-noted changes to the claims are provided solely for clarification or cosmetic reasons. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claim for any reason related to the statutory requirements for a patent.



In the event the Examiner should still find any of the remaining claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested, as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

Petition for extension is herewith made. The extension fee for response within a period of one month pursuant to Section 1.136(a) in the amount of \$110.00 in accordance with Section 1.17 is enclosed herewith.

If an additional extension of time is required, petition for extension is herewith made. Any extension fee associated therewith should be charged to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.



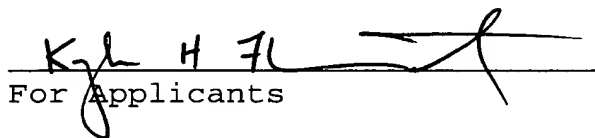
Appl. No. 09/898,316

Amdt. Dated April 23, 2004

Reply to Office Action of December 23, 2003

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,


For Applicants

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KHF:cgm

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